SUBJECT TEACHING GUIDE

G1776 - Astronomy

Double Degree in Physics and Mathematics
Degree in Physics

Academic year 2021-2022

1. IDENTIFYING DATA					
Degree	Double Degree in Physics and Mathematics Degree in Physics			Type and Year	Compulsory. Year 4 Compulsory. Year 3
Faculty	Faculty of Sciences				
Discipline	Subject Area: Classical Mechanics and Astronomy Central Module				
Course unit title and code	G1776 - Astronomy				
Number of ECTS credits allocated	6	Term	Semester based (2)		
Web					
Language of instruction	English		Mode of delivery	Face-to-face	

Department	DPTO. FISICA MODERNA
Name of lecturer	FRANCISCO JESUS CARRERA TROYANO
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Other lecturers	SILVIA MATEOS IBAÑEZ AMALIA CORRAL RAMOS PATRICIA DIEGO PALAZUELOS LORENZO BARQUIN GONZALEZ

3.1 LEARNING OUTCOMES
- Acquire an overall view of the Universe: scale of the various structures, position of the Earth
- Know the role of the different forces acting on the Universe and their range of application
- Understand the life cycle of the stars
- Understand Astrophysical phenomena
- Understand the role of General Relativity in studying the Universe
- Know the evidence for the Big Bang
- Understand the complementarity of observations performed with different detectors at different wavelengths
- Analyse new phenomena through indirect evidence

4. OBJECTIVES
Application of their previous knowledge of Physics on an astronomical context
Realisation of the main physical processes happening in astronomical objects
Application of simple physical approximations to understand the basic behaviour of those objects
Experience in the process of gathering astronomical data
Analysis of real and simulated astronomical data, to extract physical information from them
Critical evaluation of the correctness of the results of the calculations performed, through the analysis of orders of magnitude and the development of physical intuition
Obtaining information on astronomical topics: analysing and summarising it critically
Present publicly and discuss the results of a task

6. COURSE ORGANIZATION	
CONTENTS	
1	Introduction: main concepts and history
2	Physical processes in Astronomy
3	Positional Astronomy
4	Observables and instrumentation in Astronomy
5	The Solar System and the Sun
6	Stars
7	Galaxies and Active Galaxies
8	Large Scale Structure and Cosmology
9	Life in the Universe

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Development, results and written report of each lab./observational session	Laboratory evaluation	No	Yes	40,00
Partial exams	Written exam	No	Yes	30,00
Final exam	Written exam	Yes	Yes	30,00
TOTAL				100,00

Observations

The written reports will be checked for plagiarism, following the University rules for such cases if it is found, as will the use of illicit means in the partial and final exams.
All hand-ins during the course will be done via Moodle, no other means will be accepted.

Observations for part-time students

The final exam is compulsory for part time students.
The partial exams may be discounted and the final exam contributing 60% of the score if requested by the student.
The schedule and timetables of the laboratory sessions will be as flexible as possible, as well as the deadlines for the presentations of the written reports.

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

"Astronomy Today" E. Chaisson, S. McMillan, 2002, Prentice Hall (recurso en línea en la BUC)